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ABSTRACT

Several quasi-experimental and experimental studies of learning outcomes associated with Oral Communication across the Curriculum (OCXC) activities have been conducted at Radford University, Virginia. Two such studies assessing the effectiveness of OCXC in non-speech courses highlight the difficulties involved in conducting research into course-content learning related to oral communication activities in communication-intensive courses. Four other studies sought to determine if interactive multimedia instruction (IMI) in oral communication enhanced oral communication competence. The most important outcome of these studies is the preliminary empirical documentation of the effectiveness of interactive multimedia instruction in teaching oral communication skills. (Contains 12 references.) (RS)

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Empirical Measures of Learning Outcomes from Oral Communication Across the Curriculum

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Oral Communication Across the Curriculum (OCXC) uses speaking and listening activities to enhance teaching and learning in non-speech disciplines. Most OCXC programs have two goals: (a) to enhance learning of course content through student participation in oral communication activities relevant to the course and (b) to enhance the oral communication competence of participating students.

> Administrative agencies are demanding assessment of students' oral communication competence as well as measurement of course content learning. For example, the Speech Communication Association, regional accrediting associations, professional accrediting bodies, state agencies, and many university administrators are calling for the development and application of appropriate, reliable, and valid assessment instruments. (Cronin & Grice, 1991, pp. 39-40)

Most OCXC programs have relied primarily on anecdotal reports and student self-reports to assess program outcomes. Cronin and Glenn (1991) reviewed published assessments of OCXC programs and concluded:

> The preliminary evaluations, while scant, suggest some general trends: (a) faculty and students alike react positively to C-I courses and activities, (b) faculty and independent judges report that students who participate in C-I courses and activities show marked improvement in oral communication skills, (c) most students perceive improvement in their oral communication skills as a result of participation in C-I courses and activities, and (d) self-reports suggest that students perceive greater

mastery of course material through participation in C-I courses and activities. (Cronin & Glenn, 1991, p. 359)

However, exclusive reliance on anecdotal reports and student self-reports may be of limited value in assessing learning outcomes (McCroskey 1986; Rubin & Graham, 1988). Self-reports may be confounded by social desirability mandates and by inaccurate student perceptions of their learning and communication skills. Thus, independent measures of course-content learning and oral communication competence must supplement anecdotal reports and self-report data in our efforts to assess learning outcomes from OCXC.

Hamline University in Minnesota is using the Communication Competence Assessment Instrument to (a) determine the impact of speaking-intensive courses on students' communication competence and (b) determine if students taking both public speaking and speaking-intensive courses score significantly higher on the Communication Competence Assessment Instrument than students taking speaking-intensive courses but not taking a public speaking course.

The University of Colorado at Colorado Springs is using a variety of instruments including the Personal Report of Communication Apprehension, the Communication Competency Assessment Instrument, the Communication Behaviors Instrument, and The Competent Speaker (a standardized speech evaluation form) to measure dimensions of communication competency. Specific assessment applications have been reported for required communication courses, for the Diagnostic and Assessment Program, and for laboratory-based communication courses (Morreale, Shockley-Zalabak, & Whitney, 1993). However, no specific results have been reported for assessment of communication-intensive

courses at the University of Colorado at Colorado Springs.

This paper provides a brief review of the quasi-experimental and experimental studies of learning outcomes associated with OCXC activities at Radford University. Each of the completed studies has been reported in detail elsewhere.

COURSE CONTENT LEARNING

A considerable body of research suggests that active learning strategies produce greater learning than passive learning (i.e., traditional lecture). A large body of classic research indicates that oral communication activities such as oral presentations, teaching, asking questions, and small group discussions enhance learning (Subcommittee of the Educational Policies Board, Speech Communication Association, 1993).

However, little research has been conducted to assess the claim that the oral communication activities in non-speech courses enhance student learning of course content. In communication-intensive courses at Radford University, communication faculty provide limited instruction to students in the specific oral communication activities that they will participate in during the course. This oral communication instruction is provided in-class through lecture/discussion and/or via interactive video instruction outside of regular class meetings.

Cronin and King (1991) investigated the effects of oral communication instruction on the clarity/organization of oral presentations of proposed design and implementation procedures for final experiments in an experimental psychology class. In their quasi-experimental nonequivalent control group design, two of the four lab sections were randomly assigned to receive a 90-minute presentation from a speech communication faculty member on making

oral presentations and stimulating constructive critical response. The two non-treatment lab sections received a 60-minute lecture/discussion from the lab instructor on the project but received no training in oral communication. Blind comparisons were conducted between the clarity/organization of the oral presentations made in the treatment and non-treatment groups using a single-item 25-point scale. Clarity/organization was operationally defined as a sequential three-step process including: a statement of the idea, a description of the proposed research procedure and subjects, and a description of how the data would be analyzed. The blind ratings of the clarity/organization of the oral presentations resulted in a mean rating of 14.6 for the treatment group and 11.8 for the non-treatment group. An independent t-test indicated that these means were significantly different ($p < .02$).

An experimental study investigated the effects of interactive video instruction (IVI) in listening on students' comprehension of class lecture material in a business class. Students were randomly assigned within an intact class to receive either IVI on listening or to read a business-related article on reserve in the library. Both the IVI and the reserve reading were to be completed during the first two weeks of the Spring 1993 semester. Both the midterm and final examinations in the course were comprised of multiple-choice questions--50% of the questions based exclusively on the textbook material and 50% of the questions based exclusively on lecture material that was not covered in the textbook. Exam scores are being analyzed to determine if students receiving IVI on listening scored significantly higher on the lecture portion of the exam than did students receiving no listening instruction. The exam scores on the textbook-only portion of the exams are being used as covariates in analyzing the scores on the lecture portion of the exams.

It is essential to conduct additional assessment of the effects of OCXC on course-content learning in non-speech courses. However, the studies reviewed above highlight the difficulties involved in conducting research into course-content learning related to oral communication activities in C-I courses. It is difficult to develop dependable generalizations if students are randomly assigned to experimental and control conditions within the same course. It is also difficult to control for key confounding variables such as instructor differences, content variations, and demand characteristics if different courses are included in the study. Furthermore, if the independent variable (such as IVI in listening) is predicted to produce significant differences, is it ethical to deny such instruction to students in the non-treatment group when their scores on dependent measures are counted toward their grade in the course.

ORAL COMMUNICATION COMPETENCE

The experimental studies described below sought to determine if interactive multimedia instruction (IMI) in oral communication enhances oral communication competence. Radford University is using IMI to supplement the oral communication instruction provided by speech communication faculty in communication-intensive (C-I) courses. Speech communication faculty serve as consultants to C-I course instructors and typically provide one or two lectures in oral communication in each C-I course. However, students in C-I courses are encouraged (or required) to supplement these lectures with IMI in oral communication. The use of IMI and/or speech communication faculty to provide oral communication instruction in non-speech courses is referred to as the consulting and training (CONTRA) model.

Cronin, Grice, and Olsen (1992) conducted an experimental study of interactive video

instruction applications of the CONTRA model in which they compared a control group with randomly assigned interactive video instruction and lecture/linear video instruction groups. Findings indicated that interactive video instruction appeared to be effective in teaching students cognitive modification techniques to cope with speech fright. Students using the interactive video instructional module "Coping with Speech Fright" achieved statistically significantly higher cognitive recall/application test scores than students in the control group and achieved scores equivalent to those of the lecture/linear video instruction groups on both immediate and delayed tests. (The F-test results accounted for approximately 22% of the variance of the difference on both immediate and delayed tests.) Students in the interactive video instruction condition showed a decrease of .866 points over a four-week period on the public speaking portion of the Communication Apprehension in Generalized Contexts instrument, while students in the control condition showed an increase of .876 points ($p < .04$).

A second experimental study of interactive video instruction applications in the CONTRA model employed an immediate post-test, control group, comparison group design (Cronin, 1992). Students from intact C-I courses in economics, political science, health, and marketing either volunteered or were required to undergo interactive video instruction. They were randomly assigned to treatment or control groups. The control group received interactive video instruction on a subject unrelated to constructing speaking outlines. The comparison group composed of two public speaking classes and one class in argumentation and debate received usual class

> training on constructing speaking outlines. Results indicated that students receiving interactive video instruction in "Constructing Speaking Outlines" achieved statistically significantly higher immediate recall/application test scores than did students in the control group or comparison group. (The F results accounted for approximately 30% of the variance of the differences among the groups.) Regression analysis indicated no significant effects of novelty, GPA, interactive video instruction feedback rating, interactive video instruction video rating, or nature of participation (voluntary versus required) on cognitive test scores of the interactive video instruction treatment group. (Cronin & Grice, 1993, p. 7)

A third experimental study (Cronin & Myers, 1993) investigated (a) the effects of IMI in listening on cognitive learning and listening behavior and (b) the association of reported GPA, year in school, time-on-task, and previous listening instruction with learning outcomes. Students were randomly assigned to treatment groups (IMI on listening) or to a control group (IMI on testing evidence). Dependent variables consisted of a twenty-item cognitive test on listening (split-half reliability = .86) and the video version of the Watson-Barker Listening Test (Alpha = .70). Results of a dummy variable regression analysis indicate that students receiving IMI in listening achieved significantly higher immediate cognitive test scores and listening gain scores than did students in the control group. Regression analysis indicated no significant effect of reported GPA, year in school, previous listening instruction, or time-on-task on listening test gain scores of the IMI treatment group. However, significant effects on cognitive test scores were found for reported GPA, previous listening instruction, time-on-task, and senior vs. non-senior standing.

A fourth experimental study (Cronin, 1993) investigated the effects of IMI in developing key ideas on (a) students' ability to develop key ideas via signpost, statement, support, and summary and (b) the association of voluntary vs. required participation, novelty effects, and GPA on learning outcomes. Subjects were randomly assigned to a treatment group (IMI on developing key ideas) or to a control group (IMI on constructing speaking outlines). A sixteen-item test was developed to measure application skills in developing key ideas (split-half reliability = .89). Students receiving IMI on developing key ideas achieved significantly higher application test scores than did students in the control group. Group differences accounted for 60% of the variance. Regression analysis indicated no significant effect on application test scores for voluntary vs. required participation, novelty effects, or GPA.

CONCLUSION

The most important outcome of these studies is the preliminary empirical documentation of the effectiveness of interactive multimedia instruction in teaching oral communication skills. Valid and reliable assessments of the effects of OCXC and IMI on oral communication competency and course-content learning should be included as a key component in OCXC programs.

Reliable and valid assessment of learning and performance outcomes allows OCXC programs to refine program offerings to enhance learning across the curriculum and the development of oral communication skills. Furthermore, if valid empirical assessment indicates significant learning outcomes from OCXC applications, it will (a) help convince non-participating faculty to employ oral communication activities in

their courses to enhance learning, (b) help convince students and administrators of the educational value of OCXC, and (c) help secure continued and increased funding for OCXC programs. (Cronin & Grice, 1991, p. 40)

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